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HOOD RIVER FISHERIES PROJECT

Final Environmental Impact Statement (DOE/EIS – 0241)



In Cooperation with:
Oregon Department of Fish and Wildlife
The Confederated Tribes of the Warm Springs Reservation



HOOD RIVER FISHERIES PROJECT FINAL ENVIRONMENTAL IMPACT STATEMENT (DOE/EIS-0241)

Responsible Agency: U.S. Department of Energy (DOE), Bonneville Power Administration (BPA)

Title of Proposed Action: Hood River Fisheries Project

Cooperating Agencies: Confederated Tribes of the Warm Springs Reservation of Oregon (CTWS), Oregon
Department of Fish and Wildlife (ODFW)

States Involved: Oregon

Abstract: BPA proposes to fund several fishery-related activities in the Hood River Basin. These activities, known as the Hood River Fisheries Project (Project), would be jointly managed by ODFW and CTWS. The Project is included in the Northwest Power Planning Council's Fish and Wildlife Program. BPA's proposed action is to fund: (1) construction, operation, and maintenance of supplementation facilities for spring chinook and winter and summer steelhead production; (2) habitat improvement actions that will support supplementation efforts; and (3) a research program to monitor and evaluate the success of these actions in establishing self-sustaining populations of spring chinook and winter and summer steelhead.

Five alternatives are examined: Alternative 1 (Preferred Alternative), a combination of supplementation, habitat improvements, and a monitoring and evaluation (M&E) program; Alternative 2, a traditional hatchery program; Alternative 3, supplementation and M&E only; Alternative 4, habitat improvement actions and M&E only; and Alternative 5, No Action. Alternative 2 was eliminated from detailed consideration because it did not meet the need and many of the purposes of the project and because it could cause unacceptably high impacts.

Major issues examined in the Environmental Impact Statement (EIS) include the potential impacts of the project on genetic resources of existing and target fish populations; interactions between supplemented fish populations and other fish, including listed threatened and endangered species; and construction effects of supplementation facilities.

Only minor differences in impacts were found between Alternatives 1 and 3. Potentially high impacts on other species in the basin would be mitigated by careful adherence to broodstock selection and smolt release protocols, and by other actions outlined in the EIS. While Alternative 4 would have low adverse effects, it would also have low benefits. Construction effects would not occur under No Action, but continuing current programs would not meet the need to establish self-sustaining populations in the Hood River Basin.

Eight letters and comments from two public meetings were received on the Draft EIS. Since changes for the final EIS in response to these comments were minor, we are printing the Final EIS as an errata sheet with a comment and response appendix.

For additional information:

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Additional copies of the EIS may also be obtained by calling BPA's toll-free document request line: 1-800-622-4520. For information on DOE National Environmental Policy Act activities, please contact: Carol M. Borgstrom, Director, Office of NEPA Oversight, EH-25, U.S. Department of Energy, 1000 Independence Avenue, S.W., Washington, DC 20585, (800) 472-2756.

Hood River Fisheries Project Final Environmental Impact Statement

The following pages list changes to the Hood River Fisheries Project Draft Environmental Impact Statement (EIS). The changes, when incorporated into the Draft EIS along with the attached Appendix A with comments and responses on the Draft EIS, constitute the Final EIS. Please insert them with your copy of the Draft EIS. Changes from the original are shown either as deletions [~~words with lines through them~~] or as inserts [underscored words].

Page S-5, "Comparison of Alternatives," paragraph 1: Expand the existing paragraph to two paragraphs as follows:

This section compares the environmental effects analyzed in detail in chapter 4. While chapter 4 characterizes the nature of effects, this section attempts to display the relative intensity of the effect when compared to existing conditions.

Because the alternatives tend to be characterized by a single component (supplementation, habitat improvement, etc.), effects of each component are compared to the effects of No Action. Table S-1 shows this comparison graphically. The environmental effects were characterized as **positive** or **negative** and then rated as **high, moderate, or low**, using criteria described in section 3.5.

Page S-7, paragraph 1: Replace the existing paragraph 1 with the following paragraph:

Compared to No Action, the supplementation proposal could have moderate to high positive genetic effects (Section 4.1.3.1) for the target species (spring chinook and winter and summer steelhead). The proposed supplementation would use locally adapted stocks and natural reproduction to maintain local population identity and increase genetic diversity. The benefits for summer steelhead would be less than those for spring chinook because: 1) wild spring chinook are extinct in the basin: a reintroduction with supplementation would add diversity to the basin; and 2) the summer steelhead program to replace the out-of-basin stock with the locally adapted stock would be phased in over several years, so results would be seen more slowly. While the nature of the potential effect is the same for both winter and summer steelhead, compared to No Action, the intensity of the genetic effects are positive but low for winter steelhead because the existing hatchery program already uses local broodstock. However, eliminating out-of-basin hatchery strays as spawners could improve the stock's adaptability.

Page 1-6, paragraph immediately preceding "1.3.2 Salmon Status": Replace the existing paragraph as follows:

Some of the habitat improvement and enhancement projects that have been identified and are underway by these groups include:

- the screening of the East Fork Irrigation Diversion by the East Fork Irrigation District (EFID),
- passage and erosion control at and near Clear Branch Dam by the USFS and Middle Fork Irrigation District, and
- fencing of riparian areas in Neal Creek by the CTWS Salmon Corps crew.

Page 2-1, section 2.1.1 "Hood River Basin," paragraph 2: Modify sentence 1 to read:

The Hood River Basin is bounded on the west by the Cascade Range; on the south by the Sandy and White River drainages; and on the east by the Mosier, Mill, Threemile, Rock Creek and Fifteenmile Creek drainages.

Page 2-2, section "2.1.2 Water Quality," paragraph 2: Insert the following sentence before the final sentence of paragraph 2:

According to the Environmental Protection Agency (EPA), the Middle Fork Hood River is listed as water quality impaired for temperature on the draft Clean Water Act 303(d) list for Oregon.

Page 2-2, section "2.1.2 Water Quality": At the end of paragraph 2, insert the following text and table:

Table 2.1-2 shows optimum and lethal temperatures for three key fish species (Meehan, 1991).

Table 2.1-2 Lethal and Preferred Temperatures for Selected Species in Degrees Celsius

Species	Lower Lethal Temperature-- Acclimation	Upper Lethal Temperature-- Acclimation	Preferred Temperature-- Acclimation	Preferred Temperature-- Spawning
Chinook Salmon	0.8	26.2 (ILT) ^a	12 - 14	5.6 - 13.9
Steelhead	0.0	23.9 ^b	10 - 13	3.9 - 9.4
Rainbow trout	N.A.	29.4 (CTM) ^c 25.0 (ILT) ^a	N.A.	2.2 - 20.0

a Incipient lethal temperature

b Measurement technique not available

c Critical thermal maximum

Page 2-5, 5th complete paragraph: Modify sentence 1 as follows:

With a special use permit from the USFS, Middle Fork Irrigation District owns, and operates, and generates electricity at Clear Branch Dam, which forms Laurance Lake.

Page 2-6, section 2.2.6 "Forest Service Management Plans": Replace the existing paragraph two with the following paragraph:

A key element of the NWFP is incorporation of the Aquatic Conservation Strategy (ACS). This strategy establishes a network of Riparian Reserves around wetlands, seeps, springs, lakes, impoundments, and intermittent and perennial streams. Within the Riparian Reserves, management activities are guided by specific Standards and Guidelines designed to maintain ecosystem processes and functions. The ACS also establishes Key Watersheds in two categories: Tier 1 and Tier 2. The West Fork Hood River is a Tier 1 Key Watershed. Tier 1 Key Watersheds were selected for directly contributing to anadromous salmonid conservation. A third element of the ACS is a requirement to do watershed analysis before implementing all but minor activities (those which are Categorically Excluded under NEPA, and not including timber harvest). The fourth element of the ACS is watershed restoration. One product of watershed analysis is the identification and prioritization of restoration activities. Key Watersheds are the highest priority for watershed restoration.

Page 2-6, section "2.2.6 Forest Service Management Plans": Insert the following as paragraph 3:

Another Forest Service policy which affects management activities within the Hood River basin is the Columbia River Basin Anadromous Fish Habitat Management Policy and Implementation Guide. This plan was implemented before the NWFP. The CRB guide establishes desired future conditions for habitat elements such as large wood and numbers of pools. These desired future conditions are measured against existing conditions when habitat conditions are assessed under NEPA, and they serve as benchmarks when considering restoration activities.

Page 2-8, Table 2.3-1, column 2 ("Spawning/holding areas"), row 3 ("Winter steelhead"): Line 4 should read:

Middle Fork and tributaries

Page 2-14, section "2.4.1 Bull Trout," paragraph 1: Change the last sentence to read:

They are now classified as a candidate species ~~proposed~~ for listing.

Page 2-15, paragraph 2: Add at the end of the paragraph:

The USFS, in cooperation with the Middle Fork Irrigation District, has also done a considerable amount of erosion control work in the vicinity of the dam, and is planning on replacing culverts on Pinnacle Creek with a bridge to improve bull trout passage.

Page 2-17, section "2.5.2 Carrying Capacity," paragraph 1: Change the first two sentences of the paragraph to read as follows:

The current naturally produced smolt carrying capacity (the ability of the habitat to sustain a population over time) was estimated in the Hood River Subbasin Plan (ODFW & CTWS, 1990), using a computer simulation model called the Tributary Parameters Model (TPM). The model was developed by the Northwest Power Planning Council

Page 3-8, "EFID Temporary Acclimation and Release Facility": Add the following sentence at the end of paragraph 2:

The East Fork was chosen for winter steelhead releases because monitoring data show that existing populations currently occupy this river (see table 2.3-1).

Page 3-8, "EFID Temporary Acclimation and Release Facility": Insert as paragraph 3 of that section:

The floods of the winter of 1996 destroyed the sand trap at the proposed EFID site. As a result, the 1996 acclimation demonstration project used a site across the road at Toll Bridge County Park. The sand trap will be rebuilt in 1996, but the Hood River Fisheries Project could use either site in the future.

Page 3-8, "Dry Run Bridge Temporary Acclimation and Release Facility": Add the following sentence to the end of paragraph 2:

The West Fork was chosen for summer steelhead releases because monitoring data show that existing populations currently occupy this river (see table 2.3-1).

Page 3-20, "3.5 Comparison of Alternatives," paragraph 1: Expand the existing paragraph to two paragraphs as follows:

This section compares the environmental effects analyzed in detail in chapter 4. While chapter 4 characterizes the nature of effects, this section attempts to display the relative intensity of the effect when compared to existing conditions.

Because the alternatives tend to be characterized by a single component (supplementation, habitat improvement, etc.), effects of each component are compared to the effects of No Action. Table 3.5-1 shows this comparison graphically. The environmental effects were characterized as **positive** or **negative** and then rated as **high**, **moderate**, or **low**, using the criteria described in Section 3.5.

Page 3-22, "Supplementation," paragraph 1: Replace the existing paragraph 1 with the following paragraph:

Compared to No Action, the supplementation proposal could have moderate to high positive genetic effects (Section 4.1.3.1) for the target species (spring chinook and winter and summer steelhead). The proposed supplementation would use locally adapted stocks and natural reproduction to maintain local population identity and increase genetic diversity. The benefits for summer steelhead would be less than those for spring chinook because: 1) spring chinook are extinct in the basin: a reintroduction with supplementation would add diversity to the basin; and 2) the summer steelhead program to replace the out-of-basin stock with the locally adapted stock would be phased in over several years, so results would be seen more slowly. While the nature of the potential effect is the same for both winter and summer steelhead, compared to No Action, the intensity of the genetic effects are positive but low for winter steelhead because the existing hatchery program already uses local broodstock. However, eliminating out-of-basin hatchery strays as spawners could improve the stock's

Page 3-24: Change the last line of text preceding the table to read:

Table 3.5-2 compares proposed monitoring and evaluation activities to No Action.

Page 3-24: Change table number from 3.4-2 to 3.5-2.

Page 4-5, "4.1.2.1 East Fork Irrigation District Pond": Insert the following paragraph as the fourth paragraph in that section:

Although the temporary facilities would not affect the floodplain, floods can affect the project's use of the site, as evidenced by the winter 1996 flood. This event required that the temporary acclimation site be moved across the road to the Toll Bridge County Park for the 1996 acclimation demonstration project. In the future, either this site or the EFID could be used. Temporary acclimation ponds at either site would cause no impact.

Page 4-19, "4.3 Monitoring and Evaluation Component," paragraph 1: Change the list to read as follows:

1. Trapping adults.
2. Trapping juvenile outmigrants.
3. Creel surveys
4. Electro fishing
5. Radio tracking adults.
6. Genetic sampling.

Page 4-21: Add a new paragraph immediately preceding first full paragraph on that page:

Creel surveys--counting fish caught by anglers--would cause no additional environmental impact.

Page 4-25. Insert the following as the first full paragraph on that page and change the beginning of the next paragraph as shown:

A September 1, 1961, flood killed large numbers of fish and may have had a significant impact on already weakened fish populations; however, it is the cumulative effects of the factors listed that led to the extinction of spring chinook (O'Toole, et al., 1991). Since the 1960s and 1970s, land and fish management policies have changed significantly, and habitat in the West Fork of the Hood River has improved substantially. These conditions, combined with plans for continuing habitat improvements in the area, contribute to the judgment that reintroduction of spring chinook has a good chance to succeed.

If, however, the Project were unsuccessful . . .

Page 8-2: Insert the following reference between Maynard and Miller:

Meehan, William R. (Editor). 1991. *Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats*. American Fisheries Society Special Publication 19, Bethesda, MD.

Page 9-1, "carrying capacity": The definition should read:

The maximum population density that can be sustained over time under a given set of conditions.

End of Draft EIS: Add the attached comment and response document as Appendix A.

Appendix A to the Hood River Fisheries Project Final Environmental Impact Statement Comments and Responses

BPA collected comments on the Draft EIS at two public meetings and received four response forms and four letters.

BPA staff informally noted comments or questions from attendees at the two public meetings in Hood River (April 2, 1996) and Warm Springs (April 4, 1996). They are not attributed to particular commenters and are listed in the comment report by number, either as HRPM (Hood River Public Meeting) or WSPM (Warm Springs Public Meeting). Written comments from individuals and organizations are identified by the name of the commenting organization or individual, and are numbered.

Response Forms:

Jim Denton

Willis L. Gholston

Randy Labbe

Charles Gehling

Letters:

U.S. Department of the Interior: Charles S. Polityka, Regional Environmental Officer

Environmental Protection Agency (EPA): Richard B. Parkin, Manager, Geographic Implementation Unit

National Marine Fisheries Service (NMFS): Stephen Smith, Chief, Harvest/Hatchery Branch, U.S. Department of Commerce, NOAA

Mt. Hood National Forest: Roberta A. Moltzen, Forest Supervisor

Comments by Category

Comments were organized into the following categories:

- General--Overall
- Proposed Actions
 - Supplementation
 - Habitat
- Monitoring and Evaluation
- Other Alternatives
- Affected Environment
- Impacts
- Miscellaneous
- Other Actions in Basin

The comments made on the project and BPA responses are given below.

General--Overall

WSPM-11: When are we going to see a holistic management plan for the Hood River watershed?

Response: A holistic management plan is far beyond the scope of the Hood River Fisheries Project and BPA's role; however, BPA encourages the agencies and people involved in the Hood River watershed to work together towards these ends.

WSPM-12: Is there any integration between this project and the Forest Service watershed analysis process? It would be helpful to tier the Watershed Analysis to the EIS.

Response: The two agencies are sharing information and continuing their cooperative relationship. It is, however, the U.S. Forest Service's decision whether to tier their Watershed Analysis to BPA's EIS on the Hood River Fisheries Project.

Gehling-01: The environmental study seems to be done well.

EPA-01: EPA Region 10 has conducted a limited review of the draft EIS for evaluating the Hood River Fisheries Project. . . . [W]e do not foresee EPA having any environmental objections and are, therefore, rating the documents LO, lack of objections.

NMFS-01: [W]e have reviewed the Draft EIS on the Hood River Fisheries Project ... Overall, the EIS is well organized and well written, and it provides a thorough description of the proposed project.

Mt. Hood NF-01: As the managers of much of the best remaining habitat in the Hood River watershed, we have an interest in projects which affect the anadromous fish populations utilizing the habitat. The supplementation project provides opportunities to continue and expand partnerships between the Mt. Hood National Forest, the Oregon Department of Fish and Wildlife, the Confederated Tribes of Warm Springs, and BPA in the areas of habitat restoration and monitoring.

Interior-01: The Department of the Interior...has reviewed the Draft Environmental Impact Statement for the Hood River Fisheries Project...[and] does not have any comments to offer.

Response: Thank you for your comments.

Proposed Actions

Supplementation

NMFS-02: The overall purpose of this project is to increase the numbers of native stock winter and summer steelhead, and "appropriate stock" spring chinook salmon returning to habitat in the Hood River Basin for natural spawning. Thus, this project represents true supplementation as defined by Miller et al. (1990): "planting all life stages of hatchery fish to enhance wild/natural stocks of anadromous salmonids." The project will also enable research on supplementation techniques that may be applicable elsewhere in the Columbia River Basin. Please note that this project has recently been identified as one of 15 on a "list of production actions to be considered for 1996 implementation," supported by NMFS and other salmon co-managers.

Response: We agree and appreciate the support.

NMFS-03: The current Oregon Department of Fish and Wildlife (ODFW) hatchery program in the Hood River is described on page 1-11, and the proposed supplementation program is described on page 3-3. We have noted that the proposed Hood River Fisheries Project does not represent a net increase in hatchery production, but rather a reprogramming of existing production to use acclimation, volitional release, and development of native broodstock. The project will require improvements to ODFW's existing Oak Springs Hatchery, construction of permanent holding and acclimation facilities at Parkdale, and construction of temporary acclimation facilities at East Fork (EFID) and West Fork (Dry Run Bridge). Therefore, the Hood River Fisheries Project can be considered an improvement in hatchery production, rather than an actual increase.

Response: We agree.

Mt. Hood NF-08: Page 1-8: In the section titled "Status of Anadromous Salmonid Populations in the Hood River Basin," it states that indigenous spring chinook are considered extinct. A number of in-basin factors such as habitat conversion, water withdrawal, logging, and harvest are listed as contributing causes for the decline of various species and stocks. However, there is no discussion in the document regarding whether or not these factors continue to have a significant negative influence on habitat conditions or the populations. It would be useful to describe the existing condition of each of the factors compared to conditions in the 1960s and 1970s (the time frame in which the spring chinook became extinct). Without this understanding, the reader does not have insight as to why the proposed spring chinook reintroduction would have an expectation of long-term success.

Response: A September 1, 1961, flood killed large numbers of fish and may have had a significant impact on already weakened fish populations; however, it is the cumulative effects of the factors listed that led to the extinction of spring chinook (O'Toole, et al., 1991). Since the 1960s and 1970s, land and fish management policies have changed significantly, and habitat in the West Fork of the Hood River has improved substantially. These conditions, combined with plans for continuing habitat improvements in the area, contribute to the judgment that reintroduction of spring chinook has a good chance to succeed.

Information has been added to section 4.5.3 (page 4-25) to clarify this conclusion.

WSPM-10: What caused spring chinook to go extinct? Are conditions the same today? Let's not throw fish in if the habitat is not there to support them.

Response: See response to comment "Mt. Hood NF-08" above.

Gehling-02(a): I truly hope that the spring chinook can become self sustaining and that their program is not just a method to keep hatcheries going. I am not opposed to the hatcheries as a supplement, but the native population is primary and should remain so. I do believe you have addressed this.

Response: Our intent is to develop self-sustaining populations for all three target species. The proposed monitoring and evaluation program will help us determine if our efforts can succeed.

HRPM-1: Another site is needed for the East Fork Acclimation Pond, due to floods that washed out the EFID sediment trap this past winter.

Response: The temporary acclimation site was moved across the road to the Toll Bridge County Park for the 1996 acclimation demonstration project. We plan to use either this site or the EFID site in the future. The EFID sediment trap is to be rebuilt this year. Temporary acclimation ponds at either site would cause no impact (section 4.1.2.1).

Information has been added to sections 3.2-1 (p. 3-8) and 4.1.2.1 (p. 4-5) to address impacts at either site.

Mt. Hood NF-06: Figure 1.2: Regarding the location of the acclimation sites, much of the best habitat within the three main forks of Hood River is upstream from these points. The plans are for volitional releases of the smolts at these sites. Is there an expectation that the returning adults and future progeny will fully utilize habitat upstream from these sites?

Response: Terrain, access, and the need for adequate "head" for a gravity feed system limit the acclimation sites available in the basin. However, biologists expect that returning fish will use habitat both up- and downstream of the acclimation sites.

Mt. Hood NF-17: Also, there is an inconsistency between the spring chinook smolts predicted to be produced from existing habitat and the proposed spring chinook smolts to be released with this project (125K spring chinook released vs. 24K spring chinook smolts at carrying capacity for current habitat conditions). This could be explained in the document.

Response: The carrying capacity of the habitat (24,000) refers to the ability of the habitat to sustain a naturally reproducing population *over time*. Because hatchery-produced juvenile spring chinook migrate out of the area quickly--generally in one to three days (section 4.1.3.2)--and because not all of the 125,000 fish that are released will return as adults, the habitat does not need to sustain 125,000 fish.

The definition of carrying capacity has been clarified in section 2.5.2 and in the glossary.

Labbe-01: I am favorably impressed by the plan, but would like to see a greater emphasis on preserving the native run of winter steelhead. Let this important stock have a chance to regenerate naturally before a major enhancement (i.e., hatchery) program is initiated.

Response: Despite habitat improvements, native winter steelhead populations continue to exhibit a declining trend. Their numbers are substantially below the carrying capacity of the basin's habitat. Unlike past programs, the proposed program would focus on enhancing native stocks and developing a self-sustaining population.

Mt. Hood NF-03: Page S-4: It would be helpful for the reader to understand the rationale for stocking summer steelhead only into the West Fork and winter steelhead only into the East Fork. We assume it is because the radio-tracking projects have determined that this is the existing distribution pattern.

Response: Your assumption is correct. We have added language to section 3.1 (P. 3-8) to clarify that point.

WSPM-19: How do you determine how many fish are taken and when for broodstock (genetic protocol)?

Response: Chapter 4, section 4.1.3.1, describes in general the genetic protocols for broodstock collection, which are based on ODFW's Natural Production and Wild Fish Management Policy, adopted in 1992; and on guidelines developed by the Integrated Hatchery Operations Team (IHOT).

Mt. Hood NF-18: Page 3-2. Table 3.1-1. What type of live feed will be used?

Response: The spring chinook reared at the Pelton Ladder facility would eat insects that are transported naturally through the ladder. As pointed out in the footnote to table 3.1-1, steelhead would be reared in a more traditional setting. See also the response to comment "Mt. Hood NF-29" below.

Mt. Hood NF-29: Page 4-1 through 4-6: None of the descriptions of the permanent facilities discusses the use of ponds resembling natural environments, as suggested in Table 3.1-1.

Response: The table was intended to describe in generic terms the differences between supplementation and traditional hatchery programs. However, it may have confused readers because of the footnote referencing specifics of this project. As mentioned in the response to comment "Mt. Hood NF- 18" above, spring chinook would be reared in Pelton Ladder, which has 2.9-mile natural water flow that brings live food, algae, and other natural organisms to the fish. While steelhead would be reared in a traditional hatchery-type pond, they would be reared at lower densities to approximate more closely the natural conditions.

Habitat

WSPM-2: Wants more discussion of specific habitat development projects.

Response: As stated on p. 3-12, BPA has chosen to defer specific proposals for habitat improvement pending approval of the overall project. A habitat improvement plan will be developed and coordinated with public and private entities before specific projects are implemented.

Gehling-02(b): The uncertainty concerning habitat improvement projects disturbs me as I see them as crucial to any improvement in the self sustainability of these fish.

Response: Habitat improvement would be undertaken as part of the overall project. The project team believes that, with the existing good-quality habitat, and with ongoing improvement projects being undertaken by other entities, the supplementation portion of the project can begin without having specific proposals in place for further habitat improvements.

WSPM-18: Not much is proposed for habitat specifically. Perhaps you could describe the habitat restoration plan in the EIS--Goals, etc.

Response: See responses to comments "WSPM-2" and "Gehling-02(b)" above. Also, section 3.2.2 discusses the specific criteria that would be used to evaluate proposed habitat projects.

WSPM-15: Flood events are increasing wood debris input--this should not be removed. The more complex the habitat, the better the survival of fish during events--so keep wood and complexity.

Response: There is no plan to remove wood debris as part of this project. BPA would encourage other entities not to remove such debris wherever practical.

Denton-02: The project does not address removal of or modifications to man-made obstacles to fish passage, i.e., culverts, small dams, bridges, etc.

Response: The habitat improvement plan that would be developed if this project is approved would address such actions. BPA will consider funding these actions if they meet the criteria listed in section 3.2.2.

Denton-03: As part of habitat improvement, beaver should be reintroduced to all suitable areas of the watershed.

Response: See response to comment "Denton-02" above; however, beaver management is the responsibility of ODFW.

Mt. Hood NF-19: Page 3-12: For the portion of the basin on the National Forest, we will have completed watershed analyses by the end of FY96. The watershed analyses will have interpreted available stream survey, geomorphology, and land use information to determine restoration opportunities and priorities. This would be a source of information for the Hood River Watershed Group.

Response: Thank you for this information. We would expect to use this and any other relevant data in developing the habitat improvement plan.

Monitoring and Evaluation

Mt. Hood NF-20: Page 3-13: We are encouraged and excited about the monitoring activities that have taken place to date within the Hood River watershed as a result of pre-project monitoring. The radio-telemetry studies that we have entered into as a partnership with ODFW and the adult trapping at Powerdale dam have provided tremendous insights into the distribution and relative contribution by the various species and stocks within the basin.

Response: We agree.

Mt. Hood NF-25: Regarding the criteria to be used for success of the project, there is no numeric escapement goal for adult spring chinook or summer and winter steelhead. Without some target goal, it would be difficult to determine if the project was ultimately successful. A logical starting point might be the number of naturally reproducing adults needed to produce the modeled numbers of smolts that the watershed in its existing condition is capable of supporting (Table 2.5-2 on p. 2-17). Granted, this is a model with its limitations and naturally spawning anadromous fish populations may vary considerably from one year to the next. However, one could build in a factor large enough to consider variability or consider it a mean for a three or five year period. This escapement goal could be revised later as smolts/adult information is generated from the monitoring and evaluation program.

Response: While the performance criteria to measure the success of the project described on p. 3-13 do include measures for adult fish, we have not included a specific escapement number. The traditional measure of success is adult escapement, but for the time period we are looking at in this EIS (until 2002), natural smolt production was determined to be

a more appropriate measure. The monitoring and evaluation program will help us determine the optimum adult escapement.

WSPM-9: It would be interesting to look at water temperatures above and below irrigation diversions.

Response: The current proposal is to perform simple baseline temperature monitoring. The need for additional temperature data will be discussed in the monitoring and evaluation plan for the project.

HRPM-3: Will fish-counts at Powerdale and Bonneville continue?

Response: Yes. They are a routine, ongoing activity.

Other Alternatives

WSPM-5: Grandma Boise likes eels, would like to see more eels.

Response: At this time, BPA, ODFW, and CTWS have chosen to focus efforts on spring chinook and summer and winter steelhead because, as described on p. 1-8, they were determined to be the highest priority fish due to their cultural importance in the region. We have not closed the door to working with other species at some future time.

WSPM-8: Don't forget lamprey eels. Eels may end up being listed. They may have been prey species for marine mammals and sturgeon.

Response: See response to comment "WSPM-5" above.

WSPM-7: Fall chinook are very important historically. Don't forget fall chinook.

Response: See response to comment "WSPM-5" above.

EPA-06: Based on the known (e.g., temperature) and the unknowns (e.g., pesticides, sedimentation) regarding water quality in the Basin, it may be useful to incorporate more activities to improve water quality and expand water quality monitoring for parameters affecting salmonids into your mitigation alternatives. This could involve placing greater emphasis on riparian habitat improvements, establishing a monitoring program to discern sediment loadings and the level and types of pesticides entering the waterbody and, if need be, actively fostering the use and implementation of best management practices to arrest

erosion, sedimentation, and pesticides contamination of surface and ground waters affecting instream flows.

Response: It is our intent to work with the Hood River Watershed Council to encourage additional studies in these areas.

Mt. Hood NF-21: Consider adding redd counts as a monitoring item. This would serve two purposes: Gain an understanding of relative use of subwatersheds within the Hood River basin and also identify critical habitat sections that may need added consideration for protection.

Response: We plan to do redd counts as part of the monitoring and evaluation program, recognizing the limitations imposed by accessibility and terrain in the basin.

Gehling-03: I would strongly urge you to have some projects that the interested public could be involved in. When people are able to participate physically, there is a great sense of pride and ownership by the public, for which your agencies work. The Hood River Watershed Group of which I am a member would more than likely be willing to help on any participatory project, be it a clean-up of a particular site, riparian planting, spawning counts or whatever. I do believe that private groups such as Oregon Trout have used spawning surveys as a great source of information as well as a wonderful public relations tool. I would urge something along this line. Another means to involve the public is by educational and informational tours of facilities, release sites when fish are released, returning spawners, and habitat improvement. Information in the local press on number of fish released or returning, or new habitat projects completed will help to keep the public interested and knowledgeable and thereby supportive in general of these and other environmental concerns. At this time of environmental polarization, any and all support is crucial.

Response: We certainly agree with your conclusions about the value of public participation and information. This project has actively involved and encouraged participation by many different groups and individuals in the past and will continue to do so in the future.

Gholston-01: I am interested in seeing habitat improvement and reduction in mammal predator numbers in the lower Columbia River.

Response: Activities in the lower Columbia River are beyond the scope of this EIS. Plans for lower Columbia habitat improvement and predator reduction are being dealt with in other venues through agencies such as the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and others.

Gholston-03: How about NO fishing in the Columbia River System (for salmon and steelhead) for four years. This includes Indian fishing--see if escapement for natural spawning can help. Loss of revenue? Not important to possible recovery.

Response: Regulating harvest was specifically eliminated from the scope of this EIS. Harvest issues on the Columbia River system are being dealt with through the Columbia River Fish Management Plan, by which fish agencies and tribes are bound.

Labbe-02: Ban bait fishing and mandate single barbless hooks.

Response: These kinds of rules are made in ODFW's biennial review of Oregon state fishing regulations. The process provides opportunities for public comment on potential new rules.

Affected Environment

Denton-01: Have areas of the Hood River drainage which are closed to fishing proven to produce more anadromous fish than similar areas which are not closed to fishing?

Response: Some places in the Hood River basin have been closed to fishing for various reasons, but not specifically for fish production reasons. For example, Punchbowl Falls and Dry Run Bridge have been closed in the past because of their function as critical holding and passage habitat for certain species. No studies have been done, that we are aware, to evaluate the impact of the closures on production numbers.

Denton-04: Where are the primary causes in the decline of the anadromous fish species in the Hood River drainage? Do any of these alternative address these causes?

Response: The reasons for the decline of fish species in the basin are discussed in section 1.3.2. Habitat condition of various streams in the basin is discussed in section 2.5.1. The habitat improvement plan will address those areas, using the criteria outlined in section 3.2.2.

EPA-03: It would be helpful to include a summary of the state water quality standards for the Hood River Basin, a list of the parameters being monitored and the monitoring locations, and a summary of existing water quality conditions as they relate to the beneficial use of salmonid spawning, rearing, and migration (only a table of temperature data is provided).

Response: The temperature monitoring sites are shown in the footnotes to table 2.1-1. To complement that table of existing conditions, we have added a table (2.1-2) that describes optimum and lethal temperatures for chinook salmon, steelhead, and rainbow trout. Section 2.5.1 summarizes ODFW's findings on fish habitat conditions based on an extensive survey completed in 1995. While further water quality monitoring beyond collecting temperature data might provide useful information, the project team believes that the available information indicates conditions are favorable for the project's success.

Mt. Hood NF-09: Page 2.3: The water temperature information in Table 2.1-1 is presented without analysis. For example, the highest temperature readings are at Site 3 during July and August. (a) Do these temperatures have biological significance to the aquatic ecosystem? A general discussion of preferred temperature ranges for spawning and rearing for salmon and trout species found in the watershed would be useful. (b) Also, do these temperatures meet state Water Quality Standards? If not, are there any cause/effect relationships that exist that can be mitigated?

Response: See response to comment EPA-03 above. Some temperatures recorded during monitoring do not meet the state standards, but monitoring staff have concerns that the temperature data are not always reliable, for a variety of reasons. Irrigation diversions may cause some temperature problems; we expect that the proposed monitoring and evaluation program can help determine cause and effect. In addition, recent improvements in temperature monitoring by the U.S. Forest Service and Pacific Power and Light should help the project increase the reliability of its temperature monitoring.

EPA-04: The Middle Fork Hood River is listed as water quality impaired for temperature on the draft Clean Water Act 303(d) list for Oregon; this fact should be acknowledged in Chapter 2, Affected Environment.

Response: The addition has been made to p. 2-2.

WSPM-13: Hood River District is at threshold in regards to peak flows--hydrologically there is no good understanding on sediment contribution. Road densities on the forest are a problem because they contribute to sedimentation.

Response: It is not within the scope of this EIS to address road conditions on the national forest. To the extent possible, the project's habitat improvement plan will look at reducing sedimentation in areas critical to the project's success.

WSPM-14: The EIS says bank erosion is low. For the East Fork, that's hard to believe. It would seem to be pretty significant.

Response: The conclusion stated in section 2.5.1 about bank erosion applies to the Hood River basin as a whole. The 1995 ODFW survey, on which this conclusion is based, made the finding that, in general, the West Fork Neal Creek has the highest bank erosion in the watershed. We would be interested in other data that is available.

Mt. Hood NF-11: Page 2-6: We would recommend some additions and rewording in Section 2.2.6, "Forest Service Management Plans." The first paragraph is accurate. An elaboration on the Aquatic Conservation Strategy, the key element of the Northwest Forest Plan which would most strongly influence water quality and fish habitat, is suggested. This could be stated as "A key element of the NWFP is incorporation of the Aquatic Conservation Strategy (ACS). This strategy establishes a network of Riparian Reserves around wetlands, seeps, springs, lakes, impoundments, and intermittent and perennial streams. Within the Riparian Reserves, management activities are guided by specific Standards and Guidelines designed to maintain ecosystem processes and functions. The ACS also establishes Key Watersheds in two categories: Tier I and Tier 2. The West Fork Hood River is a Tier 1 Key Watershed. Tier 1 Key Watersheds were selected for directly contributing to anadromous salmonid conservation. A third element of the ACS is a requirement to do watershed analysis before implementing all but minor activities (those which are Categorically Excluded under NEPA, and not including timber harvest). The fourth element of the ACS is watershed restoration. One product of watershed analysis is the identification and prioritization of restoration activities. Key Watersheds are the highest priority for watershed restoration."

Response: The change has been made as requested.

Mt. Hood NF-12: We recommend replacing the second paragraph in Section 2.2.6 with the following: "Another Forest Service policy which has bearing on management activities within the Hood River basin is the Columbia River Basin Anadromous Fish Habitat Management Policy and Implementation Guide. This plan was implemented prior to the NWFP. Central to the CRB guide is establishment of desired future conditions for habitat elements such as large wood and numbers of pools. These desired future conditions are measured against existing condition during assessments of habitat condition for NEPA analyses and serve as benchmarks for consideration of restoration activities."

Response: We have replaced the paragraph with a slightly edited version of the paragraph above.

Mt. Hood NF-13: Page 2.8: Table 2.3-1 is an excellent presentation of current knowledge about distribution and status of Hood River anadromous fish populations.

Response: Thank you for your comment.

HRPM-5: Add information on Tony Creek, a tributary to the Middle Fork, which contains rainbow, cutthroat, and steelhead.

Response: The information for steelhead has been added to table 2.3-1 on anadromous fish distribution. Table 2.4-1 (resident fish distribution) indicates a basin-wide distribution for rainbow and cutthroat trout.

Mt. Hood NF-14: Page 2-14: Section 2.4.1 Bull Trout. (a) There is a 1996 document prepared by Jim Newton (ODFW), Steve Pribyl (ODFW), and Chuti Ridgley (USFS) that summarizes known information about bull trout in the Hood River basin. This could be added to the literature cited section and referenced in Section 2.4.1. (b) Regarding habitat restoration work, the USFS, in cooperation with the Middle Fork Irrigation District, has also done a considerable amount of erosion control work in the vicinity of the dam, and is planning on replacing culverts on Pinnacle Creek with a bridge to improve bull trout passage. (c) Also, the "warranted but precluded" finding of the USFWS is a classification in the ESA process. It is inaccurate to say that the bull trout is a species proposed for listing.

Response:

- (a) Thank you for the information.
- (b) This information has been added to the list of sample projects on p. 1-6 and to p. 2-15.
- (c) According to our correspondence with the U.S. Fish and Wildlife Service, Bull trout is considered a candidate species for listing. The language in section 2.4.1 has been changed.

Mt. Hood NF-15: Page 2-16: Section 2.5.1 Habitat Condition. (a) A table listing the streams that were surveyed and the associated river miles would be helpful, as well as the criteria for deciding which streams and reaches were surveyed. (b) The MHNH has a database and narratives for surveys totaling 155 miles in the Hood River watershed within the National Forest. These include anadromous fish-bearing, resident fish-bearing, and non-fish bearing perennial streams. While the protocol is different from the ODFW surveys, we can provide summaries of key data elements if you are interested.

Response:

(a) That extensive list can be found in the original report, listed in chapter 8 (References): Oregon Dept. of Fish and Wildlife, 1995, Aquatic Inventories Project: Physical Habitat Surveys, Fish Surveys, Hood River Basin. (b) Thank you for the information. We are aware the survey exists and are checking with the USFS on how it is being used.

Mt. Hood NF-16: Page 2-17, Table 2.5-2. The difference between existing smolt capability based upon habitat conditions, and current estimated smolt production is clear. Is there a sense from the habitat surveys or from the professional opinion of local biologists that there is an improving trend in habitat condition? Or, if habitat condition and smolt capability could be improved with key restoration projects at some priority sites? If so, it would be interesting to see smolt numbers generated for projected habitat at its highest quality.

Response: It is the opinion of project biologists that habitat conditions have improved throughout the basin. With the work of the Forest Service and with the 1996 flood, we are seeing more stream sinuosity, woody debris, and other improvements. Some problem areas still exist and would be evaluated in the habitat improvement plan. The proposed monitoring and evaluation program will help define the relationship between smolt numbers and habitat quality.

WSPM-3: It would be interesting to compare habitat degradation on private vs. public land, e.g., Neal Creek (mostly privates) vs. other creeks that are mostly public.

Response: We agree it would be interesting, but it is outside the scope of this project.

HRPM-4: Chapter 2: 2.1.1 2nd Paragraph: 1st sentence: "Hood River is bounded on the east by the..." add "Rock Creek Drainage."

Response: The addition has been made.

Mt. Hood NF-10: Page 2.4: The MFID [Middle Fork Irrigation District] also generates electricity at its Laurence Lake project on Clear Branch of the Middle Fork of Hood River.

Response: The addition has been made to p. 2-5.

WSPM-16: Black cottonwood is not as plentiful as it used to be--it was a source of large wood.

Response: We agree.

Gholston-02: You still need information on the ocean catch of young salmon and steelhead.

Response: Such an analysis would be outside the scope of the project.

Impacts

EPA-05: In Section 2.2.2, Water Quality, there is mention of high turbidity (primarily from glacial melt), low flows resulting from water withdrawals, elevated water temperature, low dissolved oxygen concentrations, and non-point sources of pollution, including pesticides from [agricultural] lands and sediments from [agricultural], forest, urban, and road building activities. However, there is no analysis to indicate the extent to which impaired water quality may affect the success of this project.

Response: While such conditions could affect the success of the project, the baseline data about water quality that would allow such an analysis to be done is not available, and it would be prohibitively expensive to obtain. Other habitat quality surveys suggest conditions that favor project success. The proposed monitoring and evaluation program will help us determine the production limit and the outside factors that limit total fish production.

NMFS-05: Item 5.2 on page 5-1 states that "BPA has also consulted with NMFS regarding possible impacts to listed Snake River spring/summer and fall chinook salmon, and sockeye salmon." While this project has been discussed among BPA and NMFS staff, a Section 7 Endangered Species Act (ESA) consultation has not yet been initiated or completed. Therefore, the word "consult" should not be used in this paragraph, because it has a specific meaning under the ESA.

For this project, ESA Section 7 consultation is appropriate because BPA, a federal entity, is directly funding the proposed action. Before the project proceeds, BPA should prepare a brief Biological Assessment (BA) which describes the potential impact of the project on listed Snake River salmon. Based on the information presented in the draft EIS, the BA could conclude that the project is "not likely to adversely affect" listed Snake River salmon, and BPA would therefore request informal Section 7 consultation with NMFS. The NMFS would then prepare a Biological Opinion in response to the BA, and the ESA Section 7 consultation process would be completed. It should be noted that a similar informal Section 7 consultation with BPA was recently completed for the proposed Cle Elum Hatchery on the upper Yakima River in Washington....

In preparing the Section 7 consultation, the question of the "production ceiling" in the current 1995-1998 Biological Opinion on Hatchery Operations in the Columbia Basin (NMFS 1995) will be considered.... Since the proposed Hood River Fisheries Project is a reprogramming of existing hatchery production, rather than a net increase, it is doubtful

that the proposed production ceiling will be an obstacle in the Section 7 consultation process of this project.

Response: BPA is preparing a biological assessment and is working with NMFS to ensure that all consultation has been done in accordance with the law.

NMFS-07(b): Has an analysis been completed on the compatibility of a resident trout fishery and the project's objective of increasing natural anadromous fish production?

Response: See the discussion on inter-specific competition, pp. 4-12 through 4-14.

NMFS-07(c): What would be the effects of fishing for planted trout on anadromous smolts and pre-smolts?

Response: See the discussion on p. 4-13. The opening date of trout season in 1997 has been delayed to minimize the effects on anadromous smolts of fishing for trout.

Mt. Hood NF-04: Page S-7: There is no discussion regarding the different effects ratings between winter steelhead and summer steelhead for the domestication selection criterion on the "Effects of alternative components compared to No Action" table (S-1).

Mt. Hood NF-30: Page 4-10: The domestication selection discussion states that the effects are the same for summer and winter steelhead, but the table displaying the effects (Table 3.5- 1) shows that the effect for winter steelhead rates an L+ and that for summer steelhead rates an M+. Which is correct?

Response: Chapter 4 discusses the nature of the effects of the project; table 3.5-1 attempts to display the relative intensity of the effect when compared to existing conditions. The analysis, as discussed in chapter 4, identifies one potential risk of a supplementation program as selecting for domestic characteristics when collecting broodstock and maintaining hatchery populations. The nature of the risk is the same for both winter and summer steelhead.

However, the intensity of that effect, when compared to existing programs, was judged to be lower for winter steelhead than for summer steelhead because the current winter steelhead hatchery program already uses wild broodstock; as a result, the change from the current program would be less than for the summer steelhead program, which does not currently use wild broodstock. The effect was determined to be positive for both species when compared to existing programs because of the proposal's use of non-traditional rearing practices and acclimation and volitional release, which are expected to reduce the development of domestic behaviors or characteristics in the target species. Explanations on pp. S-5, S-7 and 3-22 have been modified to clarify these conclusions.

WSPM-17: Genetics: Page 4.7: There are some people (Gilpin) who believe we need only one fish incorporated into hatchery brood to maintain genetic similarity to wild brood.

Response: There are numerous opinions among biologists on the subject of fish genetics. We have chosen to accept the ODFW and IHOT policies and the project genetic risk assessment.

Mt. Hood NF-31: Page 4-12: The discussion on inter-specific competition among juveniles is generic. Are there no case studies where chinook salmon were introduced or reintroduced into steelhead streams?

Response: Yes, case studies have been done, but the data are preliminary and not conclusive. As a result, we have used what is available and will continue to follow the studies as their data are confirmed.

Mt. Hood NF-05: In the last sentence of the first paragraph [p. S-71, it is stated that eliminating out of basin strays as spawners could improve the stock's adaptability. A small level of straying may actually increase genetic diversity and adaptability by providing diverse genetic material which would then be subject to natural selection processes.

Response: Wild fish will be allowed to stray; only hatchery strays will be eliminated, as part of the Wild Fish Policy. The language on p. S-7 has been clarified.

Mt. Hood NF-26: Page 3-16. Table 3.3-2: With this level of total expenditure, it would be useful to project economic benefits from the project. It is understood that this is a prototype project and some of the monitoring items could be considered basic research. However, there is an expectation that the smolts produced from this project will generate some expected level of commercial and sport harvest.

Response: As discussed on pp. 4-17 and 4-18, the primary socioeconomic benefit is expected to be social, not economic, within the time period of this EIS (2002). Because release numbers actually will be lower than they are now, (see p. 1-11 and p. 3-3), the total number of fish available for harvest could theoretically be lower than currently. The stated need for the project is not to provide more fish for harvest but to develop self-sustaining populations of declining or extinct species and to increase natural production. For that reason, specific economic benefits have not been projected.

Mt. Hood NF-27: Page 3-23: Some habitat improvement actions, such as improving fish passage at man-made barriers, can have immediate and substantial benefits, in contrast with the document's contention that habitat improvements typically have low benefits. There are also situations where critical habitat bottlenecks, such as lack of spawning gravel, or lack of side channels in low-gradient unconstrained reaches where they were formerly connected with flow, can provide "hot-spots" for productivity.

Response: Many such places in the basin have been noted and are currently being improved, often by other entities, or are targeted for improvement. It should be noted, however, that the analysis does not denigrate the value of habitat improvements, benefits of which are primarily long-term. The discussion on p. 3-23 analyzes the ability of habitat improvements undertaken by BPA under this project by themselves to achieve significant benefits within the EIS analysis period (2002), as compared to taking no action at all. Because of the substantial habitat work already being done in the basin by the USFS and others, compared to BPA not undertaking any part of this project, the benefits of additional BPA habitat improvements alone would be low.

Mt. Hood NF-28: Page 3-25: The conclusions regarding the value of habitat improvements may be premature. The document does not offer a sufficient description of habitat conditions, risks to habitat, or project proposals for habitat restoration at specific locations to determine whether or not potential production increases from habitat improvements would be relatively low. An approach might be to consider where important stream reaches are located and the risks to those locations. A key consideration would be watershed restoration in the form of road obliterations. This would reduce the risk of catastrophic debris torrents as we have witnessed in tributaries to the Clackamas River during the November 1995 and February 1996 floods. Aerial surveys from helicopter flights have indicated that obliterating high risk road sections (particularly removal of culverts and establishment of natural drainage patterns) was successful in reducing debris torrents. Because of access problems, many sites in the Hood River basin have not been inventoried for flood effects. However, some slides and debris torrents were noted within the West Fork Hood River watershed as a result of the November flood events.

Response: Please see response to comment "Mt. Hood NF-27" above.

WSPM-1: P. 4.18: Concerned about fencing and cattle trails. Sect 4.2 of the EIS is misleading--fencing results in less impact than not fencing.

Response: The paragraph on p. 4-18 clearly states that fencing usually causes little or no impact. The discussion was intended to indicate that, if fencing were proposed as a habitat improvement measure, the State Historic Preservation Officer routinely asks that a cultural resources survey be done before fencing projects are implemented, to avoid potential damage to previously unknown cultural resources that may be on the surface of

the ground near streams. We think it is important to indicate other studies or procedural requirements that must be completed before projects may be implemented.

WSPM-6: There needs to be a protocol for how to operate adult traps, including how to handle indigenous species.

Response: BPA defers to fish management agencies to develop such a protocol.

Mt. Hood NF-32: Page 4-19: The environmental effects discussion for monitoring and evaluation left out a sixth item proposed in Table 3.2-2, presented earlier in the document. That item is creel census.

Response: The item has been added to the list on p.4-19, and the following sentence, "Creel censuses--counting fish caught by anglers--would cause no additional environmental impact" has been added to p. 4-21.

Miscellaneous

Gehling-02(c): The recently announced cap on what BPA would spend on fish restoration does not bode well for the survival and improvement of these [Hood River] runs.

Response: The Fish and Wildlife budget sets an upper limit for BPA's fish restoration costs for the entire Columbia River Basin. Decisions on which projects are funded in part depend on a prioritization process that involves the states and tribes as full partners.

NMFS-04: Figure 1.1 is described in the text as ceded lands of the Confederated Tribes of Warm Springs (CTWS), but this is not clear from the legend of the map. The map in Figure 1.1 should include a caption or legend that clearly, describes that the boundaries shown are the ceded lands. The GIS-generated map in Figure 1.2 provides a good example of a high-quality graphic image.

Response: The figure is a map of the ceded area, which is shown in the legend.

Mt. Hood NF-02: Page S-2: We would be interested in obtaining copies of the evaluation studies referenced in paragraph 3 regarding population status in the basin, survival rates, distribution and abundance, and life history characteristics.

Response: The studies have been sent to you.

Other Actions in Basin

HRPM-2: When do East Fork screens go in? Upgrade of Neal Creek Screens? What is the status of Farmers Irrigation District screens?

Response: The prototype of the East Fork screens will be tested in June 1996 and the final screens installed in fall of 1996. The Farmers Irrigation District screens are in place and working acceptably. For details or information on other actions, contact the irrigation districts or ODFW.

NMFS-06: Page 2-5: What is the status of the East Fork Irrigation District diversion screening project? Will all irrigation diversions [screens] be completed by the time the Hood River Fisheries Project is implemented?

Response: See response to comment "HRPM-2" above. All screens will be in place by the time fish are in those areas.

EPA-02: It is important to place the Hood River Fisheries Mitigation Project within the context of BPA's dam operations on the Columbia River. Specifically, the EIS should provide some information about the existing and planned future structure and operation of Bonneville Dam. This information would shed light (1) on how the Hood River Fisheries Project fits into the larger picture of mitigation for dam operations; and (2) on factors external to the Hood River Basin that may affect the success of this project.

Response: We expect that Bonneville Dam will be operated as it has been. Mortality at Bonneville is the lowest of the projects on the mainstem of the Columbia River (5%); the fish bypass system planned for the future may further reduce mortality. All dam operations will be in compliance with the NMFS biological opinion on river operations.

NMFS-07(a): Page 1-11: The current ODFW hatchery program in the Hood River includes 7,000 catchable rainbow trout, scatter-planted in the East Fork.

- If the proposed Hood River Fisheries Project proceeds with BPA funding, would the catchable trout program continue with state funding?
- Would other hatchery programs continue in addition to the Hood River Fisheries Project?

Response: The catchable trout program would continue; the others in the Hood River basin would be dropped or phased out, as described in the footnotes on p. 3-3.

Mt. Hood NF-07: Page 1-6: The concluding paragraphs of the "Background" section refer to actions done to rebuild fisheries resources in the basin. The Forest Service has done a considerable amount of watershed restoration, instream habitat restoration, and associated monitoring activities within the basin, some in partnership with ODFW, and many historically funded by BPA. We can provide more detail to include in the FEIS.

Response: We recognize that the Forest Service has done a substantial amount of habitat improvement in this area. The particular projects mentioned on p. 1-6 were intended to be examples, not a comprehensive list, of the many projects undertaken by parties in the Hood River Basin.

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DOE/BP-2903 JULY 1996 450

